

SPEKTOR, Yu. I.

## CIRCUITS &amp; CIRCUIT ELEMENTS

"Certain Problems in the Theory of Magnetic Amplifiers and Magneto-Modulation Probes of the "Second Harmonic" Type", by V.N. Mikhaylovskiy and Yu.I. Spektor, Avtomatika i Telemekhanika, No 8, August 1957, pp 716-723 /5

These amplifiers are analyzed at no load with sinusoidal excitation, with allowances being made for the magnetization and eddy current losses. It is shown that the presence of losses causes the phase of the output voltage to vary with the intensity of the measured magnetic field. Reference is made to an article by F.C. Williams "The Fundamental Limitation of the Second Harmonic Type of Magnetic Modulator" Proceedings of Electrical Engineers Part II, Vol. 97, August 1957, and to "Preliminary Development of a Magnetron Current Standard" by Felch and Potter. Trans. AIEE, Part I, Vol 72, 1953.

Card 1/1

- 24 -

SPEKTOR, YU. I.

Cand Tec Sci, Diss -- "Application of magnetomodulated transducers for determining the magnetization of rock". Moscow, 1961. 16 pp with drawings, 22 cm (Acad Sci USSR. Inst of the Phys of the Earth imeni O. Yu. Shmidt), 200 copies, Not for sale (KL, No 9, 1961, p 184, No 24369). 61-54860

AFANASENKO, M.P. (L'vov); BERKMAN, R.Ya. (L'vov); MIKHAYLOVSKIY, V.N.  
[Mykhailovs'kyi, V.M.] (L'vov); SPEKTOR, Yu.I. (L'vov)

Special features of the operation of magnetic modulator transducers  
with output on higher even harmonics. Avtomatyka 8 no.3:9-15  
'63. (MIRA 16:7)

(Transducers)

L 20735-66. EEC(k)-2/EWA(h)/EWP(c)/EWP(k)/EWT(d)/EWT(1)/ETC(m)-6/I/EWP(1)/EWP(v)  
 ACC NR: AT6008321 GS SOURCE CODE: UR/0000/65/000/000/0175/0181

AUTHOR: Afanasenko, M. P. (L'vov); Petrov, V. F. (L'vov); Spektor, Yu. I. (L'vov)

ORG: Physico-Mechanical Institute, AN UkrSSR (Fiziko-mekhanicheskii institut AN UkrSSR)

TITLE: Instrument for measuring coercive force, remanence, and magnetic susceptibility of alloys in controlling their quality 47 B-1

SOURCE: AN UkrSSR. Elementy sistem otbora i peredachi informatsii (Elements of systems for selecting and transferring information). Kiev, Naukova dumka, 1965, 175-181

TOPIC TAGS: magnetic measurement, magnetic material, magnetic alloy

ABSTRACT: A new 2-channel <sup>25</sup>magnetometer-type instrument is described. Measuring the gradient of the magnetic field produced by a test specimen serves to determine the coercive force, remanence, and susceptibility of the alloy. The field-and-gradient meter includes demagnetizing Helmholtz rings, phase-sensitive detectors, amplifiers, an oscillator, and an indicating instrument (a block diagram is supplied). The claimed technical data of the new instrument is: magnetic-moment sensitivity, 0.005 CGSM unit; remanence scale span, 1--50 CGSM units with an

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L 20735-66

ACC NR: AT6008321

error of 1.5%; measurement cycle, 50--60 sec; test specimen size, 0.2--20 cm<sup>3</sup>; [03]  
power supply, 220 v, 300 va. Orig. art. has: 2 figures and 2 formulas.

SUB CODE: 11, 09 / SUBM DATE: 06Nov65 / ORIG REF: 003 / ATD PRESS: 4223

Card 2/2

ACC NR: AT6020471

(A)

SOURCE CODE: UR/0000/65/000/000/0051/0058

AUTHOR: Afanasenko, M. P. (L'vov); Spektor, Yu. I. (L'vov)

ORG: none

TITLE: Errors in determining course angle and distance when navigating by three mutually perpendicular magnetic sensing elements of an electromagnetic field of a guidance cable

SOURCE: AN UkrSSR. Teoriya i elementy sistem otbora geofizicheskoy informatsii (Theory and elements of systems for selecting geophysical information). Kiev, Naukova dumka, 1965, 51-58

TOPIC TAGS: navigation aid, error measurement, signal element

ABSTRACT: The authors attempt to determine the magnitude of error in navigating a ship or aircraft under conditions of limited visibility and by means of a guidance cable located in a bay or on a landing field. In existing designs, the three components of the electromagnetic field are measured by three mutually perpendicular coils and the position of the ship in relation to the cable is plotted visually on a screen. However, in some cases, such a qualitative interpretation of the problem is not adequate since it may be necessary to know the exact distance from the ship to the cable. In such a case, the data relative to the position of the ship and the impulses from the

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ACC NR: AT6020471

three coils of the magnetometer are fed into a computer. The errors established in the computer solutions of the problem were found to be variable. The authors established that the magnitude of error as to distance increases monotonically as the ship approaches the cable. The angle of the ship's approach does not seem to affect the magnitude of error. Orig. art. has: 3 figures, 9 formulas, 1 table.

SUB CODE: 17/

SUBM DATE: 10Nov65/

ORIG REF: 003

Card 2/2

AL'TMAN, M.B.; BOROK, B.A.; MERKULOV, V.V.; MALIN, A.P.; SPEKTOR, Yu.V.;  
NIKITSKIY, S.V.; TROFIMOV, N.I.; LAMBINA, V.I.

Foamed aluminum castings. Alium. splavy no.1:41-49 '63.  
(MIRA 16:11)



SPEKTOROV, A.S.

[State and military secrets] Gosudarstvennaia i voennaiia taina. Moskva, (MLRA 6:5)  
Voenno-morskoe izd-vo, 1945. (Official secrets) (Soviet)

SPEKTOROV, N. S.

Soviet electoral system. Moskva, 1947. 91.

TOMOVA, N.; LINKOVA, E.; SPEKTOROV, K.

The effect of different nitrogen sources on the growth and development of a synchronous culture of *Chlorella pyrenoidosa* Pringsh. 82. Doklady BAN 17 no.8:757-760 '64.

1. Institute of Plant Physiology of the Bulgarian Academy of Sciences. Submitted by Academician I. Emancuiloff [Emanuilov, I.].

SPEKTOROV K.S.

I-4

USSR/Physiology of Plants - Growth and Development.

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10431

Author : Spektorov, K.S.

Inst :

Title : On the Question of Determining the Position of the Isoelectric Point and the Possibility of Diagnosing Completion of the Vernalization Stage Through Changes in Its Position.

Orig Pub : Fiziol. rasteniy, 1957, 4, No 2, 209-214

Abstract : Sections of buds, taken from Ukrainka, Kooperatorka, Durable, Lyutestsens 1060/10, and Lyutestsens 329 wheat, and fixated in 70° alcohol, were stuck together with water, tinted for 30 minutes in a buffering mixture of 0.01% solutions of acid fuchsin and methylene blue, washed off for 40-60 minutes with buffer which had been diluted 10 times with water, and sealed /zalivat' / with balsam. The position of the isoelectric point (IET) did not change during the vernalization process (which was conducted at a

Card 1/2

*Inet Plant Physiology in K. A. Timiryazev AS USSR*

SPEKTOROV, K.S.; LIN'KOVA, Ye.A.

Effect of light intensity and temperature on the growth and development of a synchronous culture of *Chlorella pyrenoidosa* Pringsh. 82.  
Fiziol. rast. 10 no.6:667-672 N-D '63. (MIRA 17:1)

1. K.A. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.

SHKOL'NIK, R.Ya.; DOMAN, N.G.; SPEKTOROV, K.S.; LIN'KOVA, Ye.A.

Insoluble products of photosynthesis of a synchronous culture  
of *Chlorella pyrenoidosa* at various stages of development.  
Fiziol.rast. 12 no.6:1005-1011 N-D '65.

(MIRA 18:12)

1. Institut biokhimii imeni A.N.Bakha AN SSSR i Institut  
fiziologii rasteniy imeni K.A.Timiryazeva AN SSSR, Moskva.  
Submitted October 5, 1964.

L 7056-66 EWT(1)/FS(v)-3 DD

ACC NR: AP5028095

SOURCE CODE: UR/0326/65/012/006/1005/1011

AUTHOR: Shkol'nik, R. Ya.; Doman, H. G.; Spektorov, K. S.; Lin'kova, Ye. A. 39

ORG: Institute of Biochemistry im. A. N. Bakh, Academy of Sciences, SSSR; Institute of Plant Physiology im. K. A. Timiryazev, Academy of Sciences, SSSR, Moscow (Institut biokhimii Akademii nauk SSSR i Institut fiziologii rasteniy Akademii nauk SSSR) 83

TITLE: Insoluble products of photosynthesis of a synchronous Chlorella pyrenoidosa culture at different stages of its development 2

SOURCE: Fiziologiya rasteniy, v. 12, no. 6, 1965, 1005-1011

TOPIC TAGS: photosynthesis, chlorella, synchronous culture, chromatography

ABSTRACT: As part of the continuing effort to determine the intermediate products of photosynthesis, an attempt was made to identify those radioactive products of photosynthesis which cannot be extracted from a synchronous culture of Chlorella pyrenoidosa with acidified alcohol (25C). A chart of the solvents used in chromatography and the steps taken is given in the original article. It was found that the composition of the residue depends both on the duration of exposure to light and on the stage of development of the culture. Analysis showed this residue to consist of: 1) phosphorylated sugars and phosphoglyceric acid (both of which are partially extracted by acidified alcohol at room temperature); 2) substances of the polysaccharide type; 3) substances of a protein character; and 4) certain unknown substances, which remain

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UDC: 581.132

L 7056-66

ACC NR: AP5028095

at the starting point during chromatography even when several solvents are used. Polysaccharide-type substances appeared in the insoluble residue after only 2 sec of photosynthesis. After 5 min of photosynthesis in  $C^{14}O_2$ , the composition of the insoluble residue of a synchronous Chlorella culture in the fourth stage of development differed sharply from the composition of such a residue in the first and third stages of development. Sugars present in the residue as a result of the hydrolysis of polysaccharides also differed in composition depending on the developmental stage. Note: the four developmental stages of a synchronous culture of Chlorella pyrenoidosa selected were: 1) autospores (20 min of illumination); 2) 3 hr, 20 min of illumination; 3) 7 hr, 20 min of illumination; and 4) end of division inside the mother cells and beginning of egress of autospores (9 hr, 20 min of illumination). Orig. art. has: 4 figures and 1 table. [JS]

SUB CODE: LS/ SUBM DATE: 15Oct64/ ORIG REF: 004/ OTH REF: 005/ ATD PRESS: 4143

BC  
Card 2/2



L 43932-65 EWG(j)/EWG(r)/EWT(1)/FS(v)-3/EWG(v)/EWG(a)-2/EWG(c) Pl-4/Pe-5 DD  
 UE/0020/65/161/005/1231/1234

ACCESSION NR: AP5011543

AUTHOR: Shkol'nik, R. Ya.; Doman, N. G.; Spektorov, K. S.; Lin'kova, Ye. A.

TITLE: Intermediate products of photosynthesis of a synchronous Chlorella culture  
 at different stages of development

SOURCE: AN SSSR. Doklady, v. 161, no. 5, 1965, 1231-1234

TOPIC TAGS: photosynthesis, Chlorella, algae, phosphoglyceric acid, chromatography

ABSTRACT: Experiments were conducted to determine the inclusion of  $C^{14}$  in the primary products of photosynthesis of a synchronous Chlorella culture at different stages of its development. Chlorella pyrenoidosa was kept at 39°C with a light-dark cycle of 8:16 hr. Four stages of development of the culture were selected, from the beginning of the light period to the formation of new autospores in the early part of the dark period. After filtration of a 5-ml suspension of each stage, the chlorella-coated filter was placed in a chamber at room temperature with 15%  $C^{14}O_2$  in the air and exposed to light for periods of 2 and 10 sec, and 1 and 5 min. Intermediate products were fixed and extracted with alcohol. The activity of radioactive substances, both soluble and insoluble in alcohol, was determined. A large percentage of radioactivity (25—41%) was observed in the insoluble residue

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L 43932-65

ACCESSION NR: AP5011543

of different stages after 2-sec exposure. This finding does not agree with literature data on the solubility of early photosynthesis products. The failure of phosphoglyceric acid to pass into the alcohol solution may be explained by the presence of early phosphorus-containing products of photosynthesis in combined form, which are insoluble in acidified alcohol. As the culture develops, the rate of photosynthesis, i.e., the rate of  $C^{14}$  absorption per volumetric unit of the suspension, increases steadily except in the third stage (7 hr, 20 min of illumination). Of all durations of exposure to light, fixation of  $C^{14}O_2$  is greatest in the fourth stage (9 hr, 20 min after the beginning of illumination). Chromatographic analysis of alcohol-soluble intermediate products of photosynthesis after 2-sec exposure showed one extremely radioactive compound. In the autospore stage, it appears in the zone of phosphoenolpyruvic acid, and in all other stages, in the zone of  $\alpha$ -alanine. Determination of the radioactivity of substances of the alcohol fraction, some of which are soluble and some insoluble in water, showed that 60—80% of the radioactivity for all exposures and at all stages of development is located in the water-soluble substances. Orig. art. has: 2 figures and 1 table. [JS]

ASSOCIATION: Institut biokhimii im. A. N. Bakha Akademii nauk SSSR (Institute of Biochemistry, Academy of Sciences SSSR)

Card 2/3

L 43932-65

ACCESSION NR: AP5011543

SUBMITTED: 19Jun64

NO REF SOV: 005

ENCL: 00

OTHER: 005

SUB CODE: LS

ATD PRESS: 3248

LL  
Card 3/3

SPEKTOROV, L.A.  
CA

Polarized fluorescence of solutions of anthracene and of some of its derivatives. L. A. Spektorov (V. I. Lenin State Pedagog. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 65, 485 8(1940).—Curves of the rotational depolarization  $I_p$  of the fluorescence of 0.00005 g./cc.

alc. solns. with varying amts. of glycerol in excitation by 365 mμ, detd. by a method of modulation by a system of a rotating biquartz and an immobile analyzer, plotted against  $I/I_0$ , gives straight lines, the extrapolated intersection of which with the axis of ordinates gives the limiting polarization  $P_0$ . From detns. of  $P_0$  and  $q$  at 17°, the values of  $P_0$  are, for anthracene 20.3%, and for the derivs.: 0-Cl 16.0, 0-10-Cl<sub>2</sub> 14.3, 0-Cl-10-CO<sub>2</sub>H 19.0, 0-Cl-10-Me 11.4, 0-Cl-10-Br 16.0, 0-Br 24.4, 0-10-Br, 18.2, 0-Br-10-CO<sub>2</sub>H 28.0, 0-Br-10- $\beta$ -oxyethyl 21.8, 0-10-Me, 10.0, 0-CO<sub>2</sub>H 25.0, 0- $\beta$ -oxyethyl 14.3, 0-10-Et, 13.7, 0-10-Pr, 16.7, 0-10-(iso-Bu), 22.8, 0, 10-(iso-Bu), 21.8; 3,4-benzopyrene 13.3. The rotational depolarization appears to conform to the theory of Levshin and Perrin; at least, the macroscopic  $q$  is proportional to the mol.  $q$ . With the life time  $\tau = 5 \times 10^{-9}$  sec. detd. for anthracene, Perrin's formula gives for the mol. vol.  $V = 98$  cc., whereas in the cryst. state  $V = 144$  cc. This discrepancy can be accounted for by the assumption that

—optical Lab.

the mol. performs Brownian rotation without its solvent envelope, predominantly around its long axis, which results in a decreased effective  $V$ . Most derivs. have a lowered  $P_0$  as compared with unsubstituted anthracene. The considerable deviation of  $P_0$  from 0.5 is not consistent with the simple oscillator theory. Actually, owing to the indeterminacy of the momentary position of the electron, the axis of the emission oscillator can form an angle with the axis of the absorption oscillator, ranging from 0° to a certain limiting value, whereas the angle given by the theory of L. and of P. is but a statistical av. of the difference of the angles prevailing in the consecutive acts of absorption and emission. The deviation of  $P_0$  from the theoretical 0.5 would then be due to the indeterminacy of the position of the electron. N. Thon

SPETTOROV, L.A.

G-1

USSR/Analytical Chemistry - General Questions

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4692

Author : Spektorov, L.A., Klavdiyenko, I.K., Pozulyayeva, A.I.  
Inst : Academy of Sciences USSR  
Title : Correction to the Paper: "Effect of Some Substances  
Present in the Sample on Intensity of the Lines of  
Molybdenum, Indium and Thallium".

Orig Pub : Izv. AN SSSR, ser. fiz., 1956, 20, No 3, 377; RZhKhim,  
1956, 19534.

Abstract : In the paper and abstract (5-th line from beginning)  
in lieu of "Alkali metals increase the intensity of Mo  
lines, other elements decrease it. Lines of In and Tl  
are also intensified by K, Na and Li, while other metals  
do not alter their intensity"; there should be: "Al-  
kali metals increase the absolute intensity of the lines  
of Mo, Sn and Tl. Addition of K and Na causes practical-  
ly no change in the intensity of analytical lines of In".

Card 1/1

- 18 -

*SPEKTOROV, L.A.*

BEKBULATOVA, Kh.I.; NAYDICH, I.M.; SPEKTOROV, L.A.

Mineral content of some lignites of Kirghizia and Kazakhstan.  
Trudy Inst. vod. khoz. i energ. AN Kir. SSR no.4:189-194 '57.

(MIRA 10:12)

(Kirghizistan--Lignite)  
(Kazakhstan--Lignite)



SPEKTOROV, L.A.; ENGEL'SHT, V.S.

New technique for the standard addition method. Fiz.sbor.  
no.4:543-545 '58. (MIRA 12:5)  
(Spectrum analysis)



PHASE I BOOK EXPLOITATION SOV/4303

Frunze. Universitet. Nauchnoye studencheskoye obshchestvo  
Sbornik nauchnykh rabot studentov, vyp. 2 (Collection of Sci-  
entific Works of Students, No. 2) Frunze, 1959. 99 p. 500  
copies printed.

Sponsoring Agency: Kirgizskiy gosudarstvennyy universitet.  
Nauchnoye studencheskoye obshchestvo.

Resp. Ed.: L. A. Spektorov, Docent; Tech. Ed.: N. A. Yefimov.

PURPOSE: This book is intended for mathematicians, natural  
scientists, and philologists.

COVERAGE: The collection of articles contains studies in mathe-  
matics and mechanics, physics, biology, and philology written  
by members of the Nauchnoye studencheskoye obshchestvo  
(Students' Scientific Association) of Kirgizskiy gosudarstvennyy  
universitet (Kirgiz State University) under the guidance of  
faculty members. References accompany each article.

PHYSICS

Aleksandrov, Yu. (Fourth-Year Student of the Division of Physics  
and Mathematics. Docent L. A. Spektorov, Scientific Adviser).  
Effect of the Sample Composition on the Rate of Thallium  
Evaporation From a Carbon Electrode 33

Tekenov, D. (Fourth-Year Student of the Division of Physics and  
Mathematics. Docent L. A. Spektorov, Scientific Adviser).  
Temperature Measurement of Carbon Electrodes With Various  
Fillers 41

Shalykov, A. (Fourth-Year Student of the Division of Physics  
and Mathematics. Docent L. A. Spektorov, Scientific Adviser).  
Quantitative Analysis of Aluminum by the Width of Spectral  
Lines 47

Kozlov, P. (Fourth-Year Student of the Division of Physics and  
Mathematics. Docent A. G. Yakhontov, Scientific Adviser).  
X-Ray Spectrographic Study of MacrocrySTALLINE Aluminum De-  
formation 51

Zherebavay, Zh. and V. Engel'shteyn (Students of the Division of  
Physics and Mathematics. Docent L. A. Spektorov, Scientific  
Adviser). "Growth Curves" (Dependence of Spectral Line  
Intensity on the Concentration of Atoms in the Source of Light  
of Some Spectral Lines of Molybdenum and Nickel) 55

BIOLOGY

Litvin, S. (Fourth-Year Student of the Division of Biology  
and Mathematics. Professor P. A. Turdakov, Scientific Adviser).  
Bees [Bish] from the Talas Basin 59

Moldoshev, M. (Fourth-Year Student of the Division of Biology.  
Professor P. A. Turdakov, Scientific Adviser). Ichthyological  
Expedition to the Susamyr Valley in the Summer of 1953 63

Dulys, L. (Fourth-Year Student of the Division of Biology.  
Professor P. A. Turdakov, Scientific Adviser). Gudgeon (G. Gobio  
lepidocentrus) from the Shabakty River (Talas Basin) 67  
Card 1/6

SPEKTOROV, L. A.

S/058/60/000/006/022/040  
A005/A001

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 6, p. 268, # 14750

AUTHORS: Korinevskaya, N.A., Spektorov, L.A.

TITLE: Investigation of a Pulse Discharge at Lowered Pressure

PERIODICAL: V sb.: Materialy 8-y Nauchn. konferentsii professorsko-prepodavat. sostava Fiz.-matem. fak. (Kirg. un-t), Frunze, 1959, pp. 65-66

TEXT: The pulse discharge was performed in air within a quartz tube of 25 mm diameter at a pressure of 3 - 100 mm Hg. The pulse frequency was 100 - 3,000 sec<sup>-1</sup>, and the duration 0.5 - 10 msec. The dependence of the break-down voltage on the frequency and duration of the pulses as well as the dependence of the quenching voltage on the frequency and duration of the pulses, the distance between the electrodes, and the pressure were studied. It turned out that the break-down voltage decreases in the frequency range from 100 to 1,500 pulses per second and does not vary thereupon practically up to 3,000 pulses per second; ✓

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S/058/60/000/006/022/040  
A005/A001

Investigation of a Pulse Discharge at Lowered Pressure

under discharge quenching conditions, its formation time is greater than  $10 \mu$  sec and increases with increasing pressure; the deionization rate decreases with increasing pressure.

D.V. Orlinskiy

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

KORINEVSKAYA, N.A.; SPEKTOROV, L.A.

Investigation of the pulse discharge at low pressures. Izv.vys.  
ucheb.zav.;fiz. no.2:182-189 '60. (MIRA 13:8)

1. Kirgizskiy gosuniversitet.  
(Electric discharges through gases)  
(Breakdown, Electric)

39291  
S/048/62/026/007/013/030  
B104/B138

26.2311  
AUTHORS:

Engel'sht, V. S., and Spektorov, L. A.

TITLE:

Transfer processes in a d-c arc

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,  
v. 26, no. 7, 1962, 887-889

TEXT: The transfer velocity of metal atoms in the electric field E is described by

$$v_E = z b E, \quad (1),$$

rate of diffusion by

$$v_D = - \frac{D}{N} \text{grad } N - \frac{\alpha D}{T} \text{grad } T, \quad (2),$$

and rate of convection by

$$v_k = \sqrt{2g \frac{p - p_s}{p}}, \quad (3).$$

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na atoms.

Ca

S/057/63/033/002/014/023  
B108/B186

AUTHORS: Spektorov, L. A., and Engel'sht, V. S.

TITLE: Calculation of the radial temperature distribution of a sodium-stabilized carbon arc

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 2, 1963, 221 - 222

TEXT: The radial temperature distribution in a d.c. arc with a current of 4 a and an interelectrode spacing of 10 mm was calculated following a method previously used by H. Maecker (Zs. Phys., 157, 1, 1959) and H. Goldenberg (Brit. J. Appl. Phys., 10, 47, 1959). The results are in good agreement with the experimental data up to a distance of 4.5 mm from the axis. This shows that the thermal properties of the plasma in the arc do not differ essentially from those of air. There are 3 figures.

ASSOCIATION: Kirgizskiy gosudarstvennyy universitet, Frunze (Kirgiz State University, Frunze)

SUBMITTED: March 20, 1962

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9201-66

EWT(1)/EPF(1)-2/ETG/EWG(M)

IJJ(c) AT

ACC NR: AR6000106

SOURCE CODE: UR/0058/65/000/008/G013/G015

SOURCE: Ref. zh. Fizika, Abs. 8G101

AUTHOR: Spektorov, L. A.

ORG: none

TITLE: On the criterion for thermality of an arc plasma

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 2, vyp. 1, 1964, 382-387

TOPIC TAGS: plasma arc, thermal effect, arc discharge, electron interaction, plasma resonance, electron energy level

TRANSLATION: An analysis of the elementary processes which occur in an arc plasma has demonstrated the incorrectness of the thermality criterion, in which account is taken of all the electronic excitation. An estimate is presented of the role of the optical excitation of the resonant and stepwise excitation of above-resonance levels. In arcs that burn in atomic gases at  $P \geq 100$  mm Hg, exchange excitation proceeds actively. Above-resonance levels become populated to a common temperature, which can be much lower than the electronic temperature. Metastable and resonance levels are populated up to the electron temperature. In arcs that burn in air,  $N_2$  and CO, the decisive role in establishment of thermal equilibrium is played by excitation of rotational levels of molecules by electron impact.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Card 1/1

S/0057/64/034/005/0853/0856

ACCESSION NR: AP4035695

AUTHOR: Semenov, V.K.; Spektorov, L.A.

TITLE: Investigation of plasma jets produced in a pulsed discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.5, 1964, 853-856

TOPIC TAGS: plasma, plasma jet, pulsed discharge plasma, plasma recombination

ABSTRACT: Plasma jets issuing from the source illustrated in Figure 1 of the Enclosure were investigated spectroscopically. The jets were produced by discharge of a 300-microfarad capacitor charged to 2.8 kV. The current rose to its maximum of 4000 A in 30 microsec and decayed during the course of 200 microsec. The open-end channel in the textolite insert through which the plasma jet issued was 2 mm in diameter and 10 mm long. The continuous spectrum of the jet at the mouth of the channel indicated that its temperature was from 30 000 to 40 000°K. About 0.9 mg of material was vaporized from the textolite insert during each discharge. It is estimated that the pressure within the channel reached about 700 atm and the electron density,  $5 \times 10^{20} \text{ cm}^{-3}$ . Near the axis of the jet at a distance of 20 to 35 mm from the mouth of the channel was a region of intense recombination, in which C II, Al III, and Pb III lines were ex-

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ACCESSION NR: AP4035695

cited. The temperature of this region was close to  $30\,000^{\circ}\text{K}$ . Atomic lines and ionic lines of lower excitation energy were observed to originate in the peripheral region. These lines were also observed in absorption against the continuous spectrum of the jet as it issued from the mouth of the channel. The jet had a stable lamellar structure of alternately more and less strongly radiating regions. This is ascribed to hydrodynamic effects related to the supersonic flow. It is suggested that jets of the type described afford a convenient means for investigating radiation and recombination processes in highly ionized plasmas. Orig.art.has: 8 figures.

ASSOCIATION: Kirgizskiy gosudarstvennyy universitet (Kirgiz State University)

SUBMITTED: 03May63

DATE ACQ: 20May64

ENCL: 01

SUB CODE: ME

NR REF SOV: 002

OTHER: 002

Card 2/3

ACCESSION NR: AP4035695

ENCLOSURE: 01

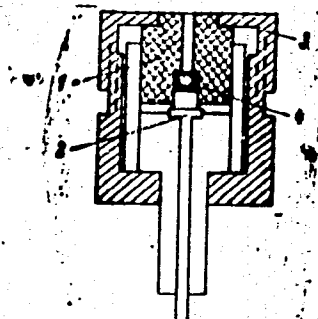


Fig. 1. Plasma jet source

1 - Textolite insert; 2 -  
anode; 3 - metal housing;  
4 - carbon plug.

Card 3/3

GLEBOVA, Iveta Ivanovna; ZELENTSOV, Vsevolod Alekseyevich; IVANOV, Vladimir Vladimirovich; NIKULIN, Nikolay Ivanovich; SHILTOVA, Alla Petrovna; OSHANIN, I.M., prof., red.; VU DANG AT, red.; SPEKTOROV, L.D., red.; ZELENTSOVA, Ye.B., red.; SOBOLEVSKAYA, E.S., tekhn.red.

[Vietnamese-Russian dictionary] V'etnamsko-russkii slovar'.  
Sost. I.I.Glebova i dr. Pod red. I.M.Oshanina i Vu Dang Ata.  
Okolo 36000 slov. Moskva, Gos.izd-vo inostr.i natsional'nykh  
slovarei, 1961. 616 p. (MIRA 14:4)

1. Vostochnaya redaktsiya Gosudarstvennogo izdatel'stva inostrannykh i natsional'nykh slovarey (for Ye.B.Zelentsova, Spektorov).

(Annamese language--Dictionaries--Russian)

SPEKTOROV, V.A.

(Gur'yev)

Detection of pulmonary tuberculosis by tubercular lesions  
of the oral mucous membrane occurring as a result of the  
use of removable dentures. Stomatologiya 43 no.1:83-85  
Ja-F'64 (MIRA17:4)

SPEKTOROVA, A.I.,

Antigenic properties of antibiotics. Antibiotiki 5 no. 4 JI-Ag '60..  
(MIRA 13:9)

1. Klinicheskaya bol'nitsa imeni S.P. Botkina i kafedra infektsionnykh  
bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. B.P. Rudnev)  
TSentral'nogo instituta usovershenstvovaniya vrachey.  
(ANTIBIOTICS) (ANTIGENS AND ANTIBODIES)

SPEKTOROVA, A.I.

Experimental studies on the antibiotic properties of tetracycline.  
Antibiotiki 6 no.3:226-228 Mr '61. (MIRA 14:5)

1. Klinicheskaya bol'nitsa imeni S.P.Botkina (glavnyy vrach -  
prof. A.N.Shabanov) i Otdel infektsionnoy patologii i eksperimental'noy  
terapii infektsiy Instituta imeni N.F.Gamalei (zav. - chlen-  
korrespondent AMN SSSR prof. Kh.Kh.Planel'yes).  
(TETRACYCLINE)

SPEKTOROVA, A.I.

Side reactions of antibiotic treatment of infectious diseases.  
Antibiotiki 6 no.9:61-67 S '61. (MIRA 15:2)

1. Klinicheskaya ordena Lenina bol'nitsa imeni S.P.Botkina (glavnyy  
vrach - prof. A.N.Shabanov) i kafedra infektsionnykh bolezney  
(zaveduyushchiy - deystvitel'nyy chlen AMN SSSR prof. G.P.Rudnev)  
TSentral'nogo instituta usovershenstvovaniya vrachey.  
(ANTIBIOTICS) (COMMUNICABLE DISEASES)

IVANOVA, N.S.; SPEKTOROVA, L.V.

Reversible bleaching of chlorella induced by some mechanical  
forces. Fiziol. rast. 11 no.1:137-138 Ja-F '64.  
(MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet.



SPEKTOROVA, I.V.

Biological parameters of the developmental cycle of a synchronous culture of a thermophilic *Chlorella pyrenoidosa* strain. Fiziol.rast. 12 no.1:27-32 Ja-F '65. (MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																																																																													
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PROCESSES AND PROPERTIES INDEX																																																																																																							
<p><i>*The Heat-Treatment of the (Magnesium) Alloy MAS. S. I. Spetktorova and S. A. Yulina (Acriston. Prom., 1941, (16), 10-11).--[16] Klemm.] The heat-treatment of a magnesium alloy containing aluminium 8, zinc 0.52, and manganese 0.27% was investigated. The following heat-treatment is recommended: annealing at 420° C. for 12 hr., air-cooling followed by an ageing at 175° C. for 8-16 hr.--D. A.</i></p>																																																																																																							
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SPEKTOROVA, S.I.

All-Union Order of Lenin, Inst. Aviation Materials (1946)

"An Investigation of Riser Systems on Models."

Iz. Ak. Nauk, Otdel Tekh. Nauk, No.6, 1946.

SPEKTROVA, S. I.

PA 169T56

USSR/Metals - Light Alloys, Testing Sep 50

"Determination of Hot-Shortness of Aluminum and Magnesium Alloys," S. I. Spektrova, T. V. Lebedeva

"Zavod Lab" Vol XVI, No 9, pp 1104-1107

New method was developed for obtaining numerical characteristics of tendency in light alloys to crack formation in hot state. Test specimens are castings of ringlike shape. Shrinkage stresses are created by placing steel cores inside of castings and by nonuniform cooling in various parts of ring by cooler installed on side of sand mold away from feeder.

169T56

USSR/Metals - Light Alloys, Testing Sep 50  
(Contd)

Criterion of hot-shortness is maximum value of ring cross section in sq mm at which first cracks occur.

169T56

СПЕКТРОВА, С.И.; КИРЕЕВ, С.А.; ЛИТИНСКИЙ, А.М.

Basic parameters of casting in molding boxes. Lit.proizv. no.6:  
9-10 S '54. (MIRA 7:10)  
(Founding)

SPEKTOROVA, Sarra Izrailevna; LITINSKIY, Arnel'd Mikhaylovich; KIRBYEV,  
Sergey Antonevich; SMROBYEV, P.S., inzhener, redaktor; MISHKIN,  
VICH, G.I., redaktor; KAMOLOVA, V.M., tekhnicheskiy redaktor.

[Shell mold casting] Lit'e v obolechkevye formy. Leningrad, Gos.  
soiuznoe izd-vo sudostroit. promyshl., 1955. 116 p. (MLRA 9:5)  
(Shell molding (Casting))

ACCESSION NR: AP4022458

S/0128/64/000/003/0027/0031

AUTHORS: Khonkin, M. L. (Candidate of technical sciences); Lavina, N. K. (Engineer); Spektorova, S. I. (Engineer); Abramov, V. I. (Engineer); Grishchenko, V. G. (Engineer)

TITLE: Study of some foundry alloys used in the production of high precision details

SOURCE: Liteynoye proizvodstvo, no. 3, 1964, 27-31

TOPIC TAGS: foundry alloy, high-precision machine detail, machine detail casting, AL2 alloy, AL9 alloy, VL15-1 alloy, ML5 magnesium alloy, steel, 35L steel, IKV vertical optimeter, ML10 magnesium alloy, dimensional stability

ABSTRACT: Measuring high-precision machine details showed that their dimensions changed with the progress of relaxation processes and of structural transformations in metals. In general, such machine details operate in the temperature range of -30C to 120C and under stresses not exceeding several kg/mm<sup>2</sup>. The conditions necessary for the required dimensional stability of alloys AL2, AL9, VL15-1, ML5 and steel 35L were determined. All the samples were treated thermally, and their

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ACCESSION NR: APL022458

deformation, stress relaxation, and the residual stress level were studied. The deformation was measured by a vertical IKV optometer. It was established that the alloy VLL5-1 had the greatest relaxation stability among the aluminum alloys and that the ML10 was the best in this respect among the magnesium alloys. A repeated heating-cooling process increased the dimensional stability of the samples, and the internal hardening (produced in the course of plastic deformation) increased the relaxation stability of alloys during the cyclic thermal treatment. It is concluded that the process to be used in securing dimensional stability must produce a stable structure and a proper state of relaxation not only in the separate details of an instrument but also in the assemblies of such details. Since additional stresses may be produced in the course of assembling, whole assemblies must undergo an additional repeated thermal treatment. This treatment should involve at least three heating-chilling cycles with a lower temperature range of -40 to -70C and an upper of 80-150C. Orig. art. has: 4 tables and 13 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 10Apr64

ENCL: 00

SUB CODE: ML

NO REF SOV: 005

OTHER: 000

Card 2/2



L 62803-65 ENT(m)/EWA(d)/EPR/EWP(t)/EWP(z)/EWP(b) Ps-4 IJP(c) MJM/JD  
 ACCESSION NR: AP5018146

UR/0128/65/000/007/0004/0006  
 669.715:621.74.045

AUTHOR: Spektorova, S. I. (Engineer); Grishchenko, V. G. (Engineer)

TITLE: AL24 alloy for high accuracy and high strength castings

SOURCE: Liteynoye proizvodstvo, no. 7, 1965, 4-6

TOPIC TAGS: alloy casting, aluminum base alloy, casting alloy, cast alloy  
 strength, zinc alloy, casting accuracy / AL24 alloy

ABSTRACT: Earlier tests showed that alloys AL4, AL9, and AL8 do not yield stable-dimension casts because of their low relaxation stability and large residual stresses after water hardening. AL2 alloy likewise showed a poor relaxation stability. Consequently, Soviet and non-Soviet researchers focused their attention on the Al-Zn-Mg alloy group. After initial tests of BL5 alloy proved unsatisfactory (Spravochnik liteyshchika, Edit. by I. F. Kalobuev, Mashgiz, 1957), attempts were made to make the composition of this alloy (M. B. Al'tman et al., Liteynyye alyuminiyevyye splavy, Oborongiz, 1961) more precise, which resulted in the AL24 version (3.5-4.5% Zn, 1.5-2.0% Mg, 0.2-0.5 Mn, and 0.1-0.2% Ti), the properties of which are described in the present paper. Comprehensive tests

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L 62803-65

ACCESSION NR: AP5018146

showed that this alloy has a lower fluidity and a large tendency toward the creation of hot cracks, being inferior in this respect to the Al-Si alloys; however, it is not sensitive to the cross sectional thickness and has uniform mechanical properties throughout the casts. It can be easily cast into various types of molds and exhibits excellent cutting properties. The article also lists all the pertinent physico-mechanical properties of the alloy. "N. V. Semenova and N. N. Mordvina participated in the investigation." Orig. art. has: 7 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 004

OTHER: 001

Card 2/2

L 23082-66 EWT(m)/EWP(t) IJP(c) JD/JH

ACC NR: AP5028999

SOURCE CODE: UR/0128/65/000/009/0030/0031

AUTHOR: Spektorova, S. I. (Engineer); Zhdanov, G. S. (Engineer)

ORG: none

TITLE: Electric resistance of aluminum-silicon alloys

SOURCE: Liteynoye proizvodstvo, no. 9, 1965, 30-31

TOPIC TAGS: electric resistance, aluminum base alloy, silicon containing alloy, electric motor / AL2 Al-Si alloy, AL9 Al-Si alloy

ABSTRACT: The article presents the results of an investigation of the magnitude and scatter of electric resistivity  $\rho$  as a function of, primarily, the chemical composition and structure of Al-Si alloys, since  $\rho$  is an important factor in determining the suitability of these alloys as rotor linings.  $\rho$  was measured in by means of an UZO3 double-measuring-bridge device for specimens of four alloys (Fig. 1) (1 and 2 are non-inoculated alloys, 3 and 4 are alloys inoculated with Na before and after annealing, respectively). It was found that, beginning with roughly 3% Si, the mean  $\rho$  of Al-Si alloys decreases after inoculation. Aluminum AV000 contained less than 0.05% Si and Fe and the maximal scatter of its  $\rho$  was  $\pm 2\%$  of the mean (Fig. 2) whereas for the alloys AL2 and AL9, owing to their high Si content and 0.15%-0.20% Fe content, the scatter of  $\rho$  was greater because of their heteroge-

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UDC: 669.715.537.311.3

L 23082-66

ACC NR: AP5028999

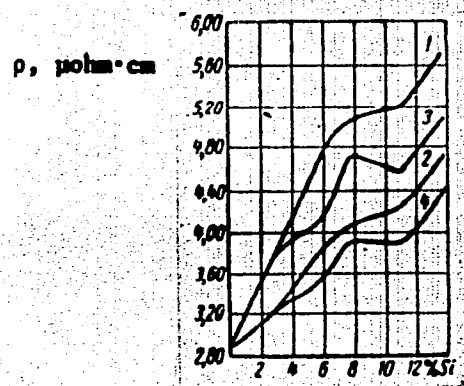


Fig. 1

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L 23082-66

ACC NR: AP5028999

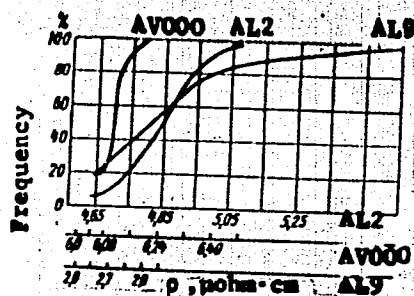


Fig. 2

Resistivity

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L-23052-66

ACC NR: AP5028999

neous structure: in AL2, the grains of  $\alpha$ -solid solution of Si in Al and a large amount of eutectic ( $\alpha$  + Si) and in AL9, the  $\alpha$ -solid solution and the eutectic  $\alpha$  + Mg<sub>2</sub>Si + Si. Annealing at 290°C for 4 hr reduces by 11-18% the mean  $\rho$  of the alloys AL2 and AL9 owing to the relieving of the casting stresses, segregation of impurities into autonomous phases from the supersaturated solid solution, equalization of the chemical composition of the grains and reduction in the number of non-equilibrium vacancies owing to diffusion processes, but, contrary to the expectations it did not result in any marked decrease in the scatter of the values of  $\rho$ . Apparently, in Al-Si alloys electric properties fundamentally determine the character of structure. Of the technological factors, only mold temperature seems to have any appreciable effect on the scatter of  $\rho$  in the alloys AL2 and AL9. Thus, the alloys AL2 and AL9 may be used as rotor linings only if they do not have to meet rigid requirements as to the stability of the  $\rho$  of the "squirrel cage". Pure Al assures a stable  $\rho$  (within +2%) but it is not as strong. Orig. art. has: 3 tables, 2 figures.

SUB CODE: 09, 11, 13, 20/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 4/4 FW

SPEKTOROVA, Z. G.

20140 SPEKTOROVA, Z. G. O khronicheskikh yazvakh zheludka i ikh rakovom  
pereruzhdrnii. Vracheb. delo., 1949, No. 6, stb. 511-16

SO: LETOPIS ZHURNAL STATEY, Vol. 27, Moskva, 1949

SPEKTOROVA, Z. G.

BAIDER, A. A. K., SPEKTOROVA, Z. G.

Remote results in Recklinghausen's disease following excision of a tumor of the parathyroid gland. Khirurgiya, Moskva No. 6, June 50.  
p. 61-4

1. Of the Department of Roentgenology of First Moscow Medical Institute (Head—Prof. R. A. Golonzko) and of the Department of Prodeutic Surgery of First Medical Institute (Head—Prof. I. L. Fayerman) attached to the Hospital imeni Medsantrud.

CLML 19, 5, Nov., 1950



CHERNOGOROV, I.A., professor; TAUBKIN, G.G.; SPEKTOROVA, Z.G.; MYASNIKOV, A.L., professor, deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR, direktor; VISHNEVSKIY, A.A., professor, direktor.

Post-traumatic aneurism of the abdominal aorta; on the diagnosis of aneurisms and pathogenesis of the hypertension syndrome. Klin.med. 31 no.3:72-75 Mr '53. (MLRA 6:5)

1. Institut terapii Akademii meditsinskikh nauk SSSR (for Myasnikov).
2. Institut khirurgii imeni A.V. Vishnevskogo Akademii meditsinskikh nauk SSSR (for A.A. Vishnevskiy). 3. Akademiya meditsinskikh nauk SSSR (for Myasnikov). (Aortic aneurisms) (Hypertension)

SPEKTOROVA, Z.G.; TAUBKIN, G.G.(Moskva)

Importance of x-ray urological examination in hypertension. Klin.  
med., 33 no.10:18-22 0 '55. (MLRA 9:2)

1. Iz Instituta terapii AMN SSSR (dir.--dytstvitel'nyy chlen AMN SSSR  
prof. A.L. Myasnikov)  
(HYPERTENSION, etiology and pathogen,  
urol. disord., x-ray diag)  
(UROGENITAL SYSTEM, diseases  
in etiol. of hypertension,x-ray diag.)

Name: SPEKTOROVA, Zinaida Grigor'yevna

Dissertation: Changes in skin tissue during hypertonic disease

Degree: Doc Med Sci

Affiliation: [not indicated]

Defense Date: Place: 6 Jan 56, Council of Department of Clinical Medicine, Acad Med Sci USSR

Certification Date: 16 Nov 57

Source: BMVO 24/57

*also KL, 44, 29 Oct. 55*

SPEKTOROVA, Z.G., doktor med.nauk

Importance of tomography in the X-ray diagnosis of atherosclerosis of the thoracic aorta. Terap.arkh. no.7:45-49 J1 '62.

(MIRA 15:8)

1. Iz Instituta terapii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.L. Myasnikov).

(ARTERIOSCLEROSIS) (AORTA--DISEASES) (DIAGNOSIS, RADIOSCOPIC)

CHAZOV, Ye.I.; ANDREYENKO, G.V.; SPEKTOROVA, Z.G.; RAYEVSKAYA, V.V.;  
MOISEYEV, S.G.; BABSKIY, Ye.B.; BREDIKIS, Yu.I.; KUSHKIY, R.O.;  
KALITEYEVSKAYA, V.F.; BEREZOV, Ye.; POKROVSKIY, A.V.; MEL'NIK,  
I.Z.; AGRANENKO, V.A.; VINOGRADOVA, I.L.; SKACHILOVA, N.N.;  
VIKHERT, A.M.; ZAMYSLOVA, K.N., prof.; SOKOLOVSKIY, V.P., prof.;  
BEYUL, Ye.A., kand.med.nauk; SOLOV'YEV, V.V.

Minutes of the meetings of the Moscow Society of Therapists.  
Terap.arkh. 35 no.1:112-118 Ja'63. (MIRA 16:9)  
(THERAPEUTICS--ABSTRACTS)

SPEKTOROVA, Z.G.

Importance of tomography in X-ray diagnosis of atherosclerosis  
of the thoracic aorta. Trudy Inst. klin. i ekaper. kard. AN  
Gruz. SSR 8:31-34 '63. (MIRA 17:7)

1. Institut terapii AMN SSSR, Moskva.

SPENTSEVA, A. I.

SPENTSEVA, A. I. - "The problem of occupational training of children in the literary heritage of A. M. Gor'kiy." Moscow, 1955. Moscow State Pedagogical Inst, inst. V. P. Potemkin. (Dissertations for degree of Candidate of Pedagogical Sciences.)

SO: Knizhnaya letopis', No 48. 26 November 1955. Moscow.

*Spektenskiy, V.N.*

ALEKSANDROV, A.; ATAMALYAN, B.; BYCHKOV, V.; DRUZHKOVA, L.; YELYUTINA, K.;  
ZAKHAROVA, L.; KOCHETOV, V.; RADYUKIN, M.; SPKITSORSKIY, V.; PEDOT-  
KIN, I.; POLIMONOV, L.; TSIMEULOV, G.; SHEROYAN, R.; SHIGIN, M.

Letter to the editor. Neft.khoz. 33 no.6:92 D '55.  
(Oil well drilling--Equipment and supplies)

(MIRA 9:8)



SPEKTORSKIY, V. N. Cand Tech Sci -- (diss) "Study of the Working Process of a High-Pressure Axial Pump Designed for the Drilling and Exploitation of <sup>Petroleum</sup> Wells." Mos, 1957. 13 pp 20 cm. (Mos Order of ~~Labor~~ Labor Red Banner Petroleum Inst im Academician I. M. Gubkin), 110 copies (KL, 26-57, 109)

SPEKTROV, L.A.; KLAVDIYENKO, I.K.; POGULYAYEVA, A.I.

Effect of some substances contained in the assay on the intensity  
of molybdenum, indium and thallium spectral lines. Izv. AN SSSR  
Ser. fiz. 19 no.1:122-123 Ja-F '55. (MIRA 8:9)

1. Kirgizskiy gosudarstvennyy universitet  
Spectrum analysis: (Spectrometer)

SPEKTROVA, Z.T.

X-ray diagnosis of atherosclerosis of the abdominal aorta and of its bifurcation. Terap.arkh. 28 no.2:52-58 '56. (MLBA 9:7)

1. Iz Instituta terapii ANS SSSR (dir. deystvitel'nyy chlen ANS SSSR prof. A.L.Myasnikov)

(AORTA, diseases, arteriosclerosis, x-ray diag. (Rus))

(ARTERIOSCLEROSIS, aorta, x-ray diag. (Rus))

SPELDA, A.

"The Human Voice." p. 1149. (MATEMATICKO-PRIRODOVEDECKE ROZHLEDY, Vol. 32, no. 5, 1953, Praha, Czechoslovakia)

So: Monthly List of East European Accessions, Vol. 3, no. 5, May 1954/Unclassified

CZECHOSLOVAKIA/Acoustics - Audition and Speech

J-8

Abs Jour : Ref Zhur - Fizika, No 9, 1958, No 21365

Author : Spalda Antonin

Inst : Not Given

Title : Objective and Subjective Height of Tone

Orig Pub : Prirod. vedy skola, 1957, 7, No 10, 890-893

Abstract : Popular article.

Card : 1/1

S/058/63/000/001/006/120  
A062/A101

AUTHOR: Špelda, Antonín

TITLE: Some experiments on acoustics

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 11, abstract 1 A100  
("Přírod vědy škole, 1962, 12, no. 8, 648 - 659, Czechoslovakian)

TEXT: Some little known experiments on acoustics are described which can be easily carried out by simple means. 1. Propagation of sound waves in liquids. A glass of water is placed on a cavity resonator and a tuning fork is put in the glass on a floating piece of wood. The sound vibrations are transmitted through the water and amplified by the resonator. 2. Dependence of the vibration frequency on the magnitude of damping in the medium in which the source is placed; illustration of the formula

$$f' = f \frac{1}{\sqrt{1 + c\rho}}$$

wherein  $f'$  is the sound frequency in the liquid,  $f$  - the sound frequency in air,

Card 1/2

Some experiments on acoustics

S/058/63/000/001/006/120  
A062/A101

$\rho$  - the density of the liquid,  $c$  - a constant depending on the form of the tuning fork. The sounding fork is rapidly immersed into the liquid. The high frequencies are sharply attenuated, the intensity of the sound decreases, its tone becomes lower. At  $f = 435$  c/s  $f' = 40 - 50$  c/s. 3. A generator of non-fading sound vibrations. A narrow stream of water under pressure flows out from a very narrow aperture in a tube connected to the water supply net and falls onto a circular membrane. If the tuning fork is fastened to the extremity of the tube, then upon its sounding the liquid stream from the nozzle is modulated and the membrane is brought into vibration - the sound is amplified. If the membrane is connected by a thin conductor with the tube, then, due to the produced feedback, the tube starts vibrating, excites the tuning fork and in this way a generator of non-fading vibrations is obtained. Also described are experiments on measuring the sound velocity in Kundt's tube at a high vibration frequency (8 - 17 kc/s), experiments with a "singing" flame, interference of sound vibrations, etc. ✓

P. Sosenko

[Abstracter's note: Complete translation]

Card 2/2

SPELETIC, Valentina

Rhodonite from Petrova Reka in Macedonia. Geologija Slov  
6:286-295 '60 (publ.'61).



SPELINA, M.

Machines for a complex mechanization of Czechoslovak agriculture.

P. 470 (Mechanisace Zemedelstvi) Vol. 7, No. 20, Oct. 1957 - Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC. - VOL. 7, NO. 1, JAN. 1958

SPELINA, M.; URBAN, A.; PAVLIK, J.

"Machinery for complex mechanization in the cultivation of cereals. (To be contd.)"

p. 516 (Mechanisace Zemedelstvi) Vol. 7, no. 22, Nov. 1957  
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,  
April 1958

SPELINA, M.

Machinery for a complex mechanization of the growing of cereal grains.

p. 540 (MECHANISACE ZEMEDELSTVI) Vol. 7, no. <sup>23</sup>21, Nov. 1957,  
Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,  
March 1958

SPELINA, M.

Machinery for complex mechanization in the cultivation of sugar beets. (To be contd.)

p. 563 (MECHANISACE ZEMEDELSTVI) Vol. 7, no. 24, Dec. 1957,  
Praha, Czechoslovakia

S0: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,  
March 1958

SPELINA, M.: URBAN, A. : PAVLIK, J.

"Machinery for the complex mechanization of sugar-beet cultivation."

P. 11. (Ministerstvo zemedelstvi --Praha, Czechoslovakia.) Vol. 8, no. 1, Jan. 1958.

SO: Monthly Index of East European Accession (EEAI) LC, Vol. 7, No. 5, May 1958

SEVLINA, M.; HRBAV, I.; PAVLIK, J.

"Machinery for complex mechanization in the cultivation of sugar beets. (To be cont.)"

p. 35 (MECHANISACE ZEMEDLSTVI Vol. 3, no. 2, Jan. 1953 Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 7, 1953

CHODURA, M.; CHODURA, M.; CHODURA, M.

"Machinery for complex mechanization in the cultivation of corn. (Conclusion)."  
p.202 (Mechanizace Zemdelstvi, Vol. 8, no. 3, May 1958, Praha, Czechoslovakia)

Monthly Index of East European Accession (MEAI) IC, Vol. 7, No. 8, 1958

SPELINA, M.

"An international coordination conference on agricultural machinery system." P. 131

VESTNIK. Praha, Czechoslovakia; Vol. 6, No. 3, 1959

Monthly list of East European Accession Index (EEAI), Library of Congress,  
Vol. 8, No.7, July, 1959

Unclas



Spelina, M.

AGRICULTURE

PILISEK, V.; JERABKE, F. ; SPELINA, M.

Methods of economic evaluation of agricultural machinery. p. 839.

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 4, April 1959.

Vol. 31, no. 11, Nov. 1958

SPELINA, M., inz.; SOUHRADA, J., inz.

Some general principles of agricultural technique development.  
Zemedel tech 9 no.3:169-176 Je '63.

1. Vyzkumny ustav zemedelske techniky, Repy u Prahy.

SPELINA, R.; WONDRAK, R.

Looser-Milkman syndrome and its surgical therapy. Roshl.chir.  
34 no.8:487-493 Oct 55.

1. Z chirurgickeho oddeleni OUNZ Litomerice, primar Dr R.Spelina  
(BONES, diseases,  
Milkman's synd.. intramedullary nailing (Cs))

ZUNA, Vl.; SPELINA, V.

Treatment and diagnostic use of intra-arterial oxygen insufflation  
in ischemic conditions of the extremities (Preliminary report) Rozhl.  
chir. 42 no.1:39-43 Ja '63.

1. I. chirurgická klinika lékařské fakulty KU v Plzni, prednosta doc.  
dr. J. Spinka.

(OXYGEN)	(EXTREMITIES)	(VASCULAR DISEASES)
(ANGIOGRAPHY)	(DIABETIC ANGIOPATHIES)	

KOZHOV, M.M., prof., doktor biolog.nauk; MISHARIN, K.I., dotsent, kand. biolog.nauk. Prinsipalni uchastnye: TOMILOV, A.A., kand.biolog.nauk; POPOV, P.F., kand.biolog.nauk; YEGOROV, A.G., kand.biolog.nauk; TUGARINA, P.Ya., kand.biolog.nauk; TYUMENTSEV, N.V., nauchnyy sotrudnik; ASKHAYEV, M.G., nauchnyy sotrudnik; NIKOLAYEVA, Ye.P., nauchnyy sotrudnik; KARTUSHIN, A.I., nauchnyy sotrudnik; STERLYAGOVA, M.A., nauchnyy sotrudnik; KORYAKOV, Ye.A.; SPLIT, K.K., inzh.; ARTYUNIN, I.M., inzh.; OKUNEV, P.M.; SHNIPER, R.I., rabotnik. SHAFIROVA, A.S., red.; SOROKINA, T.I., tekhn.red.

[Fishes and commercial fishing in Lake Baikal] Ryby i rybnoe khoziaistvo v basseine ozera Baikal. Irkutskoe knizhnoe izd-vo, 1958. 745 p. (MIRA 12:4)

1. Sotrudniki Irkutskogo gosuniversiteta (for Misharin, Tomilov, Popov, Yegorov, Tugarina). 2. Sotrudnik Baykal'skoy limnologicheskoy stantsii Akademii nauk SSSR (for Koryakov). 3. Baykalrybtrest (for Split, Artyunin). 4. Gosplan Buryat-Mongol'skoy ASSR (for Shniper). (Baikal, Lake--Fisheries)

SPELOV, L.

Kommunisticheskoe vospitanie trudia-shchikhsia i zadachi ideologicheskoi raboty partorganizatsii (Communist education of the workers and the objectives of the ideological work of the Party organizations). Moskva, Izd. VPSH, 1952. 39 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 1, April 1953

PENZIK, A. S.; SPELTER, V. B.; KONOVALOV, M. N.

"Experiences with the anticoagulants Omephin and Eskusane in diseases of cerebral blood vessels."

report submitted for 3rd Hungarian Conf, Therapy & Pharmacology, Budapest, 5-12 Oct 64.

Medical Inst, Neurological Faculty & the VILAR Medico-Biological Dept, Riga.

SPENDIAROV M.B.

Category: USSR / Physical Chemistry - Kinetics. Combustion.  
Explosives. Topochemistry. Catalysis.

B-9

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30047

Author : I. Korniyenko V. P., Petrenko V. V.; II. ~~Korniyenko V. P.~~, Kagan  
M. B., Spendiarov N. N.; III, Korniyenko V. P., Selikhova M. N.,  
Remmer N. S.

Inst : Khar'kov University

Title : I. Thermal Decomposition of Nickel Oxalate. II. Kinetics of Thermal  
Decomposition of Manganese Oxalate. III. Thermal Decomposition of  
Cobalt Oxalate.

Orig Pub: Uch. zap. Khar'kovsk. un-ta, 1956, 71, 77-87; 89-94; 95-102.

Abstract: I. A volumetric study of the kinetics of decomposition of dihydrate  
of nickel oxalate (I) at 343-369°. It is shown that the equation of  
Yerofeyev (1) is applicable to this process. The exponent  $n$  appear-  
ing in this equation is equal to 1 at low temperatures, increasing  
with temperature and reaching 1.66 at 369°. With rise in temperature  
the velocity maximum is shifted to 50% decomposition. Energy of acti-

Card : 1/3

-20-



Category: USSR / Physical Chemistry - Kinetics. Combustion.  
Explosives. Topochemistry. Catalysis.

B-9

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30047

vation (E), calculated from temperature dependence of velocity constant, is 42.3 kcal/mole; from temperature dependence of the duration of the reaction, is derived the value  $E = 45.3$  kcal/mole. Decomposition of I occurs in stages: 1)  $\text{NiC}_2\text{O}_4 = \text{NiO} + \text{CO} + \text{CO}_2$ ; 2)  $\text{NiO} + \text{CO} = \text{Ni} + \text{CO}_2$ . By approximate thermodynamic calculations it is shown that the decomposition of I with formation of metal oxide and acid anhydride is more advantageous, from energy standpoint, than the decomposition to metal and radical. By means of the rule of Luglin the heat of formation value of I has been estimated and was found to be of 206 kcal.

II. A study was made, between 369 and 420°, of the thermal decomposition of the dihydrate of manganese oxalate (II). Decomposition of II takes place according to equation (1), in which the value of exponent  $n$  varies from 1.07 to 1.42, depending on temperature and percentage of decomposition. Energy of activation,  $E = 41$  kcal/mole,

Card : 2/3

-21-

Category: USSR / Physical Chemistry - Kinetics. Combustion.  
Explosives. Topochemistry. Catalysis.

B-9

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30047

has been calculated; from temperature dependence of duration of decomposition has been derived  $E = 40$  kcal/mole. It is assumed that decomposition occurs by a growth of the existing plane nuclei of the reaction. In the opinion of the authors the primary product is  $MnO$ , while the formation of metal on decomposition of II and other unstable Mn salts is unlikely.

III. Thermal decomposition of the dihydrate of cobalt oxalate (III) has been studied at  $343-369^{\circ}$ . It is shown that equation (1) is applicable, on varying the exponent  $n$  from 0.8 to 3. Energy of activation of the decomposition of III,  $E$ , is equal to 23.6 kcal/mole; from temperature dependence of decomposition duration has been derived  $E = 40.7$  kcal/mole. By approximate thermodynamic calculations it is shown that decomposition of III to meta oxide and acid anhydride is more advantageous, as concerns the energy, than a decomposition with formation of metal.

Card : 3/3

-22-

KORNIYENKO, V.P.; KAGAN, I.I.; SPENDIAROV, N.Y., student.

Thermal decomposition of oxalates of the series manganese - zinc.  
Part 2: Thermal decomposition kinetics of manganese oxalate. Uch.  
zap. KHGU 71:89-94 '56. (MLRA 10:8)  
(Manganese oxalate)

SPENDIAROV, N.N.; DOBROKHOTOVA, V.K.; PAVLOVA, Ye.N.; NABOYKIN, Yu.V.;  
ALEKSANDROV, B.S.

Zone refining of anthracene. Trudy IRMA no.23:3-10 '59.  
(MIRA 13:7)

(Anthracene)

SPENDIAROV, N.N.; ALEXSANDROV, B. S.

Growing single crystals of anthracene. Rost krist. 2:78-83 '59.  
(MIRA 13:8)

(Anthracene--Crystals)

189500

S/058/62/000/006/066/136  
A061/A101

AUTHORS: Aleksandrov, B. S., Dobrokhotova, V. K., ~~Naboykin, Ya. V.,~~  
Spendiarov, N. S., Uglanova, V. V.

TITLE: Zone purification of substances for scintillation single crystals

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 12, abstract 6E99  
(In collection: "Rost kristallov. T. 3". Moscow, AN SSSR, 1961,  
332 - 337. Discuss., 501 - 502)

TEXT: A system of short tubular heaters on a vertical unit was used to  
perform the zone purification of naphthalene, stilbene, anthracene, and other  
substances for scintillation single crystals. The effect of purification proved  
positive in nearly all cases. In particular, the intensity of luminescence in  
the maximum was enhanced by 1.5 - 2.5 times. ✓B

[Abstracter's note: Complete translation]

Card 1/1

SPRINKLING, I. I.

Eng Tech Sci

Dissertation: "Experimental-Theoretical Investigation of the Performance of Welded Beams Under Cranes."

20/6/50

Moscow Order of the Labor Red Banner Engineering Construction Inst imeni V.V. Kuybyshev

**80 Vecheryaya Moskva**  
**Sum 71**

124-58-6-7047

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 6, p 109 (USSR)

AUTHOR: Spengler, I. Ye. [Spenhler, I. Ye.]

TITLE: Local Stability Analysis in Beam Walls (K voprosu o raschete na mestnuyu ustoychivost' stenok balok) [Do pytannya pro rozra-khunok mistsevoyi stiykosti stinok balok]

PERIODICAL: Zb. nauk. prats'. Dnipropetr. inzh. - budiv. in-t, 1957, Nr 3, pp 50-70

ABSTRACT: Stability-analysis formulae for continuous-beam walls given in "Normy i Tekhnicheskiye usloviya proyektirovaniya stal'nykh konstruktsiy (Standards and Technical Specifications for the Design of Steel Structures)" NiTU 121-55 are compared with the more rigorous analytical method [Broude, B. M., Predel'nyye sostoyaniya stal'nykh balok (The Ultimate Strength of Steel Beams). Moscow, Gosstroyizdat, 1953]. It is found in a number of cases that analysis according to NiTU 121-55 considerably underrates the critical-load value. To facilitate analysis, the author recommends use of the tables and diagrams prepared by him. It must be said, however, that the accuracy of the results obtained with these diagrams is not

Card 1/2



124-58-6-7047

Local Stability Analysis in Beam Walls (cont.)

great, the reason being the need for repeated graphic interpolation.

B. M. Broude

1. Beams--Stability
2. Stability--Analysis
3. Mathematics--Applications

Card 2/2

SPENGLER, I. <sup>1/2</sup> kand. tekhn. nauk

~~Calculating the local stability of walls of composite beams.~~  
Stroi. prom. 36 no. 7:27-30 J1 '58.

(MIRA 11:8)

1. DISI.

(Girders)

SPENGLER, I.Ye., kand.tekhn.nauk; RODOV, S.M. (Dnepropetrovsk)

Endurance of light crane girders with a span of 6 m. Prom. stroi.  
40 [i.e. 41] no.4:49-52 Ap '63. (MIRA 16:3)  
(Cranes, derricks, etc.--Equipment and supplies)

SPENGLER, I. Ye., kand. tekhn. nauk

Some problems in the design, assembly, and operation of steel  
crane girders under heavy operating conditions. Prom stroi  
41 no. 12:37-39 D '63. (MIRA 17:5)